

REMARKS

In the Specification:

Table 1, on page 8, beginning at line 25 has been amended to correct a typographical error in Example 4. The matrix weight percent value should be “75” not “85”. This is supported by the filler/rubber ratio shown in Table 1 for Example 4 which by subtraction of the rubber and filler percent from 100 equals 75 weight percent.

Information Disclosure Statement:

The scanning of the information disclosure statements previously provided are acknowledged.

Claim Objections:

Claims 16 and 17 have been objected to by the Examiner under 37 CFR 1.75 as being a substantial duplicate of claims 6 & 7. Claim 16 has been amended to be dependent from claim 13 rather than claim 1 thus, eliminating the substantial duplication of claim 6 & 7 stated by the Examiner. Claim 17 is dependent from amended claim 16. Thus, claims 16 & 17 are believed to be in allowable condition.

Claim 20 has been objected to under 37 CFR 1.75 (c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. Claim 20 has been amended such as not to be dependent from any other multiple dependent claim. Hence, claim 20 is believed to be in allowable condition.

Claim rejections under 35 USC § 112:

Claims 1-19 have been rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) The reference to “for improved compatibility” has been removed from the claims 1 & 13 for clarity.

B) Claims 1, 13, and 19 have been amended to indicate that the amounts of the components are based on the total weight of the composition for clarity.

C) Claim 4 has been canceled and its subject matter incorporated into claim 1. The hyphenation suggested by the Examiner has been added for clarity of the monomer units.

D) Claims 9 and 10 have been amended to remove the word “preferably.”

E) Claim 13 has been amended to provide antecedent basis for the term “the elastomer” and also amended to remove reference to “the matrix resin.”

F) Claim 18 has been amended according to the examiner's suggestion to replace the word "having" with the word "has" for proper establishment of antecedent basis.

Claim rejections under 35 USC § 102 and § 103:

The following responses are numbered in accordance with the numbering of the September 29, 2004 office action for ease of reference.

Generally speaking, the present invention relates to compositions comprising a matrix material of aromatic polyester, mineral filler having an equivalent spherical diameter of about 0.05 to less than 4 micrometers, and an elastomer comprising thermoplastic polyurethane (TPU); polyether polyester thermoplastic polymers; an ethylene-methyl acrylate (EMA) polymer; an ethylene-butyl acrylate carbon monoxide (EBACO) polymer; an ethylene-vinyl acetate carbon monoxide (EVACO) polymer; or an ethylene-butyl acrylate glycidolmethacrylate polymer (EBAGMA). These compositions have improved toughness and improved internal lamination of polyester and elastomer compared to compositions without mineral filler [page 4, line 19 – page 5, line 6].

Claims 3-5 and 15 have been canceled. Claims 1 and 13 have been amended to include the subject matter of the claims 3 and 4. Support for the "equivalent spherical diameter ..." in claim 1 is found on page 7, lines 1-4. and page 3, lines 6-8. Support for the claim 13 amendment of "5% to 20% by weight of an elastomers" is found on page 3, lines 9-10.

Claim rejections under 35 USC § 102 and § 103:

8. Claims 1-8, 11-17 and 19 have been rejected under 35 USC § 102(b) as anticipated by, or in the alternative, under 35 USC § 103(a) as obvious over Takahashi et al. (US 4,692,480). Applicant disagrees. Claims 3-5 and 15 have been canceled.

Takahashi et al. discloses a thermoplastic composition comprising a thermoplastic resin and a spherical, hollow filler, such as spherical glass filler [abstract; col. 2, lines 43-45]. The compositions of Takahashi are high in rigidity and light in weight [col. 1, line 51]. The composition of the present invention has improved toughness.

Takahashi et al. does not disclose the use of an elastomer comprising thermoplastic polyurethane (TPU); polyether polyester thermoplastic polymers; an ethylene-methyl acrylate (EMA) polymer; an ethylene-butyl acrylate carbon monoxide (EBACO) polymer; an ethylene-vinyl acetate carbon monoxide (EVACO) polymer; or an ethylene-butyl acrylate glycidolmethacrylate polymer (EBAGMA) in compositions comprising aromatic polyester and mineral filler wherein the mineral filler has an equivalent spherical diameter of about 0.05 to less than 4 micrometers as presently claimed. Furthermore, there is no teaching by Takahashi et al. that the use of the mineral filler of the present invention in an aromatic

polyester composition comprising the elastomers of the present invention will provide a composition having improved toughness and improved internal lamination between polyester and elastomer. For these reasons, claims 1, 2,6-8, 11-14, 16,17 and 19 are believed in allowable condition.

Claim rejections under 35 USC § 103:

12. Claims 9, 10, and 18 stand rejected under 35 USC § 103(a) as obvious over Takahashi et al. (US 4,692,480).

As stated above, Takahashi et al. discloses a thermoplastic composition comprising a thermoplastic resin and a spherical, hollow filler, such as spherical glass filler [abstract; col. 2, lines 43-45]. The compositions of Takahashi are high in rigidity and light in weight [col. 1, line 51] whereas the present invention has improved toughness.

Takahashi et al., unlike the present invention, does not disclose the use of an elastomer comprising thermoplastic polyurethane (TPU); polyether polyester thermoplastic polymers; an ethylene-methyl acrylate (EMA) polymer; an ethylene-butyl acrylate carbon monoxide (EBACO) polymer; an ethylene-vinyl acetate carbon monoxide (EVACO) polymer; or an ethylene-butyl acrylate glycidolmethacrylate polymer (EBAGMA) in compositions comprising aromatic polyester and mineral filler wherein the mineral filler has an equivalent spherical diameter of about 0.05 to less than 4 micrometers as presently claimed. Furthermore, there is no teaching by Takahashi et al. that the use of the mineral filler of the present invention in an aromatic polyester composition comprising the elastomers of the present invention will provide a composition having improved toughness and improved internal compatibility between polyester and elastomer. (See page 5, lines 14 and 26-30).

Claim rejections under 35 USC § 102 and § 103:

13. Claims 1-9 and 11-19 have been rejected under 35 USC § 102(b) as anticipated by, or in the alternative, under 35 USC § 103(a) as obvious over Moriwaki et al. (US 6,399,695). Applicant disagrees. Claims 3-5 and 15 have been canceled.

Moriwaki et al. discloses a thermoplastic polyester resin for use in PET bottles comprising a carboxyl-modified metallocene catalyzed polyolefin elastomer or a glycidyl methacrylate adduct thereto. Moriwaki et al. does not disclose the use of an elastomer comprising thermoplastic polyurethane (TPU); polyether polyester thermoplastic polymers; an ethylene-methyl acrylate (EMA) polymer; an ethylene-butyl acrylate carbon monoxide (EBACO) polymer; an ethylene-vinyl acetate carbon monoxide (EVACO) polymer; or an ethylene-butyl acrylate glycidolmethacrylate polymer (EBAGMA) in compositions comprising aromatic polyester and mineral filler wherein the mineral filler has an equivalent

spherical diameter of about 0.05 to less than 4 micrometers as in the present invention. Furthermore, there is no teaching by Moriwaki et al. that the use of the mineral filler of the present invention in an aromatic polyester composition comprising the elastomers of the present invention will provide a composition having improved toughness and compatibility between polyester and elastomer.

Claim rejections under 35 USC § 103:

14. Claim 10 has been rejected under 35 USC § 103(a) as obvious over Moriwaki et al. (US 6,399,695). Applicant disagrees.

As stated above, Moriwaki et al. discloses a thermoplastic polyester resin for use in PET bottles comprising a carboxyl-modified metallocene catalyzed polyolefin elastomer or a glycidyl methacrylate adduct thereto. Moriwaki et al. does not disclose the use of an elastomer comprising thermoplastic polyurethane (TPU); polyether polyester thermoplastic polymers; an ethylene-methyl acrylate (EMA) polymer; an ethylene-butyl acrylate carbon monoxide (EBACO) polymer; an ethylene-vinyl acetate carbon monoxide (EVACO) polymer; or an ethylene-butyl acrylate glycidolmethacrylate polymer (EBAGMA) in compositions comprising aromatic polyester and mineral filler wherein the mineral filler has an equivalent spherical diameter of about 0.05 to less than 4 micrometers as presently claimed. Furthermore, there is no teaching by Moriwaki et al. that the use of the mineral filler of the present invention in an aromatic polyester composition comprising the elastomers of the present invention will provide a composition having improved toughness and improved internal lamination between polyester and elastomer.

Conclusion:

15. Relative to the Examiner's comment regarding Tonen Chem. Corp (Japanese application), Applicant contends that the elastomers used in Tonen are different from the present invention as Tonen discloses a "thermoplastic Styrenic elastomers modified with an unsaturated glycidyl compound".

Extension:

Please charge a one-month extension fee under 37 CFR 1.17(a) to respond to the Examiner's office action to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company.) If, any additional fee is due in order to obtain consideration of this response, please charge that fee to the above identified account.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



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